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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,910	10/11/2001	Tsai Chu-Chia	ACR0051-US	7467

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EXAMINER
EDWARDS, ANTHONY Q

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 08/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/973,910	Applicant(s) CHU-CHIA, TSAI	
	Examiner Anthony Q. Edwards	Art Unit 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,397,189 to Minogue in view of U.S. Patent No. 6,038,614 to Chen. Referring to claims 17-19 and 21, Minogue discloses an ergonomic keyboard comprising, a base (10) and a plurality of keys, arranged in accordance with the "QWERTY" standard, located evenly on the base about a center line of the base and further arranged to form a plurality of parallel arc key rows having a same concentric center lying at the center line, wherein the concentric center is located at a side opposing to a user of the keyboard. See FIGS. 1, 2, 9 and 10 of Minogue.

Minogue does not specifically disclose a plurality of non-standard function keys, arranged in a group, located at an upper edge of the base away from the "standard" keys, wherein the non-standard function keys (i.e., "hot keys") are used to macro a plurality of serial typing operations for reducing the typing of keys.

Chen teaches a multimedia keyboard (10) with "QWERTY" keys (14) in a main typing area, including a plurality of standard function keys (not numbered) and non-standard function keys (15). The non-standard function keys, i.e., "hot keys," are located at an upper edge of the keyboard, away from the main typing area with "QWERTY" keys. See FIGS. 4-7 and the corresponding specification. As is well known in the art, both standard and "non-standard"

function keys are used to "macro" a plurality of serial typing operations to reduce or eliminate keystrokes while using a keyboard.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ergonomic "QWERTY" keyboard of Minogue to include standard and non-standard function keys at an upper edge of the base, as taught by Chen, to provide "hot keys" for executing predetermined software commands without having to type the commands into the computer system and to thereby reduce the number of key strokes by a computer user.

Referring to claim 20, Minogue in view of Chen disclose an ergonomic keyboard, wherein the arc key rows are equal-spaced arranged. See FIGS. 1, 2, 9 and 10 of Minogue.

Claim 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minogue in view of Chen, and further in view of U.S. Patent No. 6,212,066 to Fetterman. Referring to claim 22, Minogue, as modified, discloses the claimed ergonomic keyboard, except for the keyboard including a pair of fasteners for fixing said keyboard to a computer unit. It is noted that the keyboard of Minogue can be applied to a keyboard of a portable computer, which is inherently "any type of keyboard." See column 3, lines 47-50. Fetterman discloses a portable computer (200) with removable keyboard (300) having a pair of fasteners, i.e., latches (302) for fixing the keyboard (300) to a computer unit (200). See FIGS. 2 and 3A and column 6, lines 14-17.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the ergonomic keyboard of Minogue to include a pair of fasteners, as taught by Fetterman, to removably attach the ergonomic keyboard of Minogue, as modified, to a computer to allow access to internal components of the computer via an opening therein.

Referring to claims 23-25 and 28, Minogue, as modified, discloses the claimed invention, except for the ergonomic keyboard fixed on a notebook computer having a computer unit for storage and processing digital data, and a display for displaying the digital data. Fetterman discloses a portable computer (200) with a removable keyboard (300) fixed thereon.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the ergonomic keyboard of Minogue to be fixed on the notebook computer of Fetterman, since the keyboard of Minogue could place physical stress on the user and could reduce the risk of carpal tunal syndrome.

Referring to claim 26, Minogue, as modified, in view of Fetterman, disclose a notebook computer as claimed, except that each of the letter keys and the numeral keys has a size 0.85-0.98 times of a key of a keyboard for a desktop computer. It is notoriously old and well known in the art of notebook computers to reduce the size of the keys by 0.85-0.98 times that of keys used in a desktop computer for portability and compactness. It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the size of the letter keys and numeral keys on the keyboard of Minogue, since reducing the size of the keys allows for portability and reduced surface area for the notebook computer.

Referring to claim 27, Minogue, as modified, in view of Fetterman, disclose a notebook computer as claimed, except that each of the standard function keys has a size 0.6-0.8 times of a key of a keyboard for a desktop computer. It is notoriously old and well known in the art of notebook computers to reduce the size of the standard function keys by 0.6-0.8 times that of standard function keys used in a desktop computer for portability and compactness. It would have been obvious to one of ordinary skill in the art at the time the invention was made to

reduce the size of the standard function keys on the keyboard of Minogue, since reducing the size of the keys allows for portability and reduced surface area for the notebook computer.

Referring to claim 29, Minogue, as modified, in view of Fetterman, disclose a notebook computer as claimed, including a pair of fasteners for fixing said keyboard to a computer unit. See FIGS. 2 and 3A and column 6, lines 14-17 of Fetterman.

As mentioned above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the ergonomic keyboard of Minogue to include a pair of fasteners, as taught by Fetterman, to removably attach the ergonomic keyboard of Minogue, as modified, to a computer unit to allow access to internal components of the computer unit via an opening therein.

Referring to claim 30, Minogue, as modified, in view of Fetterman, disclose a notebook computer with ergonomic keyboard, wherein the arc key rows are equal-spaced arranged. See FIGS. 1, 2, 9 and 10 of Minogue.

Response to Arguments

Applicant's arguments with respect to claims 17-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent No. 6,038,614 to Chan et al. disclose active volume control with hot key on a keyboard.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Q. Edwards whose telephone number is 703-605-4214. The examiner can normally be reached on M-F (7:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (703) 308-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 306-5511 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-9929.

aqe
July 29, 2003

DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800